M. MUEHL.

PUTTYING GUN.

APPLICATION FILED MAR. 28, 1922.

1,435,908.

Patented Nov. 14, 1922.

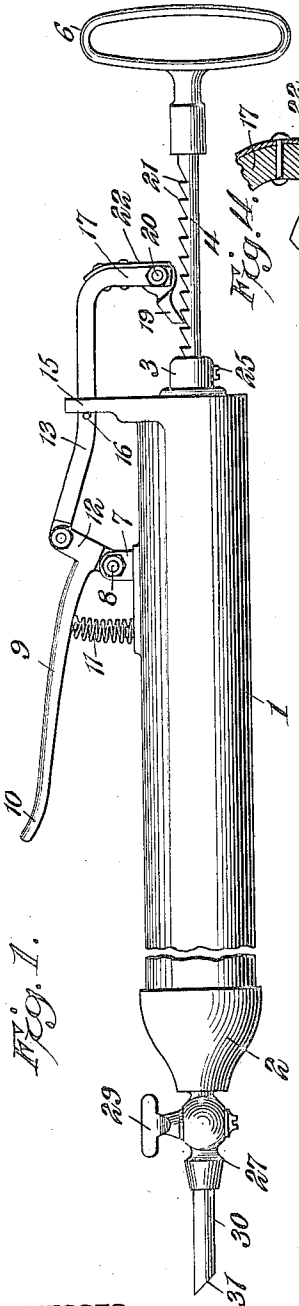


Fig. 1.

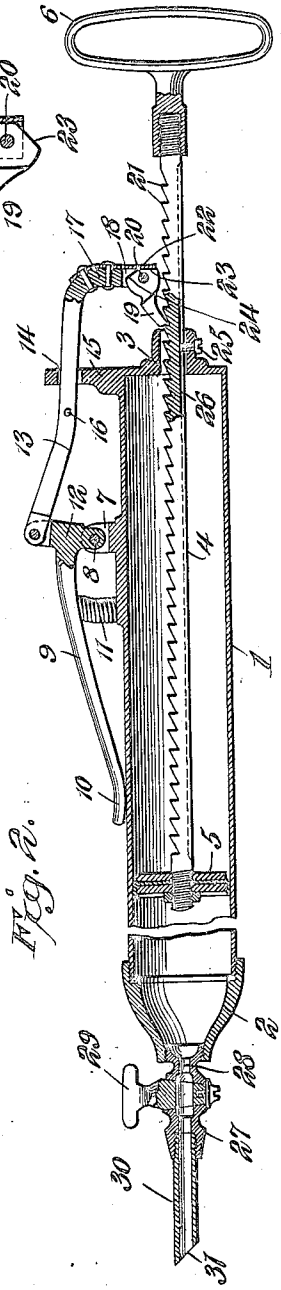


Fig. 2.

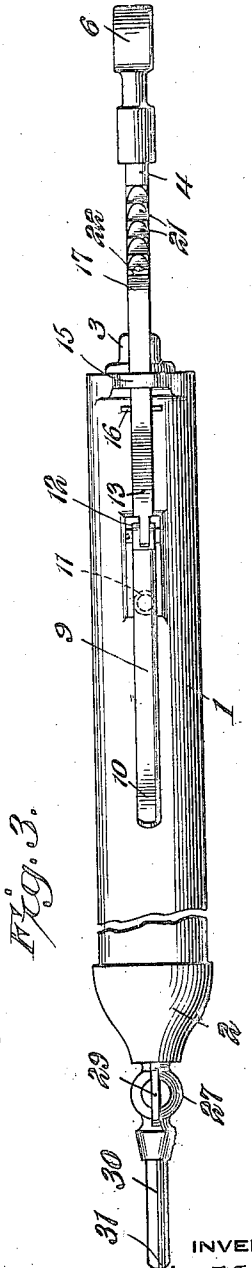


Fig. 3.

WITNESSES

Howard D. Orr.

Clyde & Ratcliff.

INVENTOR,

Martin Muehl,

BY

E. G. Siggers.

ATTORNEY

Patented Nov. 14, 1922. 1,435,908

UNITED STATES PATENT OFFICE.

MARTIN MUEHL, OF SALT LAKE CITY, UTAH.

PUTTYING GUN.

Application filed March 28, 1922. Serial No. 547,525.

To all whom it may concern:

Be it known that I, MARTIN MUEHL, a citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and State of Utah, have invented a new and useful Puttying Gun, of which the following is a specification.

This invention relates to puttying guns, and has for its object the provision of a device having a barrel and a piston therein, which is adapted to be advanced in the barrel for forcing putty in a thin stream through a valved nozzle.

A further object of the invention is the provision of an improved device in which the parts are so coordinated that the lever for controlling the mechanism which operates the piston is adapted to be operated by the hand which holds the barrel, thereby leaving the other hand entirely free to direct the movements of the gun so as to maintain the nozzle in the proper position for the work desired to be done. The disposition of the operating members of the piston is such that a minimum amount of pressure is required for operating the working parts of the gun to force putty of any consistency through the nozzle.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawing forming part of this specification, with the understanding, however, that the invention is not confined to any strict conformity with the showing in the drawing, but may be changed and modified so long as such changes and modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawing:—

Fig. 1 is a side view of the gun.

Fig. 2 is a longitudinal section of the same showing the operating mechanism in operative position for forcing the piston towards one end of the barrel.

Fig. 3 is a plan view of the same.

Fig. 4 is a detail view in section showing the pawl locked in an inoperative position to permit withdrawal of the piston rod.

Referring to the drawing, 1 designates a cylindrical barrel having one end open and threaded exteriorly, upon which is mounted a conical cap 2, the other end being closed and provided with a boss 3, in which is adapted to be reciprocated the toothed piston rod 4, the boss providing a bearing for said rod.

A piston 5 is mounted upon the inner end of the rod 4, while a handle 6 is secured to the outer free end of said rod in any approved manner and projects beyond the barrel 1. I prefer to form the handle separately from the rod 4 and in a removable manner, so that it will be possible to remove the handle for withdrawing the piston 5 and the rod 4 from the barrel 1, when the conical cap 2 has been removed.

Mounted upon the barrel 1 are a pair of ears 7, between which is pivotally mounted a depending lug 8 of a lever 9. Said lever is curved in a manner which will be comfortable to the hand of an operator when the barrel and lever 9 are grasped. The lever is maintained in substantially parallel relation with the barrel of the gun so that the free end 10 of said lever is located near the conical cap 2.

A spring 11 having its ends seated on lugs projecting upwardly from the barrel 1 and downwardly from the lever 9, is adapted to maintain the lever in spaced relation with the barrel, so that after pressure has been relieved on the lever, the spring will return the lever to its normal position.

Upon the inner end of the lever 9 is formed a pair of upstanding ears 12 between which is pivotally mounted one end of a reciprocating rod 13. This rod is mounted within a bearing 14 formed in an upstanding bracket 15 preferably integrally formed with the inner end of the barrel 1. Pins 16 project outwardly from the sides of the reciprocating rod 13 and are adapted to engage the inner side of the bracket 15 and provide a stop to prevent the rod 13 from any further outward reciprocation, when the spring 11 has forced the lever 9 in an inoperative position and in spaced relation with the barrel 1.

The outer end of the reciprocating rod 13 is bent downwardly or inwardly, at 17, and is bifurcated, at 18, in which bifurcation a pawl 19 is pivotally mounted upon a pin 20. The pawl 19 is adapted to engage the teeth 21 on the piston rod 4, and is held in engagement with said teeth by means of a flat spring 22 secured to the depending portion 17 of the reciprocating rod 13 and lying in engagement with a flat side 23 formed on the heel of the pawl. The heel is provided with another flat side 24 adjacent the flat

edge 23, which is adapted to be engaged by the spring 22 when the pawl is placed in an inoperative position and away from the teeth 21, said pawl being maintained in such position by the spring. The angle formed by the flat sides 23 and 24 acts as a cam to force the spring 22 outwardly and away from either of the flat sides 23 or 24, when the pawl is oscillated and changed from an inoperative to an operative position, or vice versa.

A set screw 25, mounted in the boss 3 and projecting interiorly of the passage in said boss through which the rod 4 is reciprocated, is adapted to have its inner end engaged within a slot 26 running lengthwise of the rod 4 to maintain said piston rod in position and prevent the rod from turning in the barrel, in order that the teeth 21 will be maintained in a position to be engaged by the pawl 19.

The valve casing 27 has a longitudinal passage 28, with one end screw threaded in order to engage the internally threaded reduced end of the conical cap 2. A valve 29 of the turning plug type is maintained in a transverse passage in the casing 27 and is adapted to cut off communication between nozzle 30 and the interior of the barrel 1. The valve 29 may further function as a means for limiting the flow of putty from the barrel 1 by the partial turning of the same. The nozzle 30 has its outer free end sheared off at an angle, as shown at 31, in order that the nozzle may be properly positioned on the work to be supplied with putty, as the barrel 1 is tilted at an angle to said work.

The operation of my device is as follows:—

The cap 2 is removed, as well as the valve and the nozzle 30, since these parts are securely mounted on the cap 2. The pawl 19 is elevated from its engagement with the teeth 21 on the rod 4 until the flat side 24 of the heel of the pawl is in engagement with the spring 22, whereby the pawl will be maintained in an inoperative position, as shown in Fig. 4. The piston 5 may be retracted within the barrel 1 by drawing upon the handle 6. After a sufficient quantity of putty has been filled in the barrel 1 through the open end of the barrel, the cap 2 is replaced. The pawl 19 is then lowered until the flat side 23 of the heel of the pawl is again in engagement with the spring 22, whereby the pawl 19 will be maintained in engagement with the teeth 21 of the piston rod 4, with the lever 10 in the position shown in Fig. 1. The handle 6 may be conveniently held by either the left hand or the right hand, depending upon the will of the operator, while the barrel 1 may be gripped by the other hand, preferably the right, and the lever 9 by the same hand, so that the thumb may be comfortably seated on said lever.

The cap having been replaced, the nozzle is applied to the portion of the work to be puttied and the lever 9 is operated by the thumb for reciprocating the rod 13 forwardly and forcing the pawl 19 into engagement with the teeth 21 for successively advancing the piston 5 within the barrel. The spring 11 returns the lever 9 and likewise the rod 13, thereby placing the pawl in engagement with the next tooth in succession.

When the barrel has been emptied, the same may be again supplied with putty for a renewal of the operation.

It will be seen, by reason of the construction of the operating mechanism and the association of the parts in operative relation, that great force is applied to the pawl 19 for forcing the piston rod 4 along the barrel with a minimum amount of pressure applied to the lever 9, so that it is possible for the operator not only to grasp the barrel 1 by one hand but likewise operate the lever by the same hand.

It is further possible by this construction to use putty of all consistencies, without requiring any great effort on the part of the operator.

Again, it will be seen that the pawl 19 does not operate downwardly on the rod 4 and thereby force the rod against its bearing in the boss 3 and create friction whereby a part of the energy exerted by the operator is lost, but the pawl 19 acts directly forwardly and against each tooth, so that none of the energy expended upon the lever 9 is wasted. The reason for this is apparent. The reciprocating rod 13 acts in parallelism with the piston rod 4, while the pawl is not urged downwardly between the teeth, but against the vertical face of each tooth.

What is claimed is:—

1. In a device of the character described, the combination of a barrel, a piston therein, a toothed piston rod, a lever pivoted on the barrel and having its operating end extending toward the front end of the barrel, a spring for the lever, a reciprocating rod connected to the lever and extending beyond the rear end of the barrel, means for guiding the movement of said rod, and a pawl operatively connected with the reciprocating rod and engaging the teeth on the piston rod.

2. In a device of the character described, the combination of a barrel, a piston therein, a toothed piston rod, a lever pivoted on the barrel, a spring for the lever, a nozzle on one end of the barrel, the free end of said lever extending toward the nozzle, a reciprocating rod connected to the lever and slidable in a bracket mounted on the barrel and operating in parallelism with the piston rod, a pawl pivotally mounted on the

reciprocating rod and in engagement with the teeth on the piston rod, and means for maintaining the pawl in engagement with the teeth.

3. In a device of the character described, the combination of a barrel, a piston therein, a toothed piston rod, a lever pivoted on the barrel and having its operating end extending toward the front of the barrel, a reciprocating rod connected to the lever, a spring for the lever, said rod having its end turned inwardly toward the piston rod, a pivoted pawl connected to the inturned end of said rod, said pawl having two flat sides, and a spring for engaging the sides of the pawl.

In testimony, that I claim the foregoing as my own, I have hereto affixed by signature.

MARTIN MUEHL.